

**DEPARTMENT OF
PHYSICS**

**2001
Faculty Publications
and Presentations**

PUBLICATIONS/PRESENTATIONS

JOURNAL PAPERS

Christodoulou, A., Lampiris, D., Colson, W.B., Crooker, P.P., Blau, J., McGinnis, R.D., Benson, S.V., Gubeli, J.F. and Neil, G.R., "Simulations of the TJNAF FEL With Tapered and Inversely Tapered Undulators," *Nuclear Instruments and Methods in Physics Research A475*, pp. 182, 2001.

Colson, W.B., "Short-Wavelength Free Electron Lasers in 2000," *Nuclear Instruments and Methods in Physics Research A475*, pp. 397, 2001.

Denardo, B., Pringle, L., DeGrace, C. and McGuire, M., "When do Bubbles Cause a Floating Body to Sink?" *American Journal of Physics*, Vol. 69, pp. 1064-1072, 2001.

McGinnis, R.D., Blau, J., Colson, W.B., Massey, D., Crooker, P.P., Christodoulou, A. and Lampiris, D., "Simulations of the TJNAF 10kW Free Electron Laser," *Nuclear Instruments and Methods in Physics Research A475*, pp. 178, 2001.

Shipley, M.N., Stokely, J., Smith, K.B. and Larraza, A., "Laboratory Experiments of Time-Reversed Acoustics Applied to Sonar in Shallow Water Waveguides," *Journal of the Acoustical Society of America*, Vol. 110, pp. 2708, 2001.

Smith, K.B., "Convergence, Stability and Variability of Shallow Water Acoustic Predictions Using a Split-Step Fourier Parabolic Equation Model," *Journal of Computational Acoustics*, Vol. 9, pp. 243-285, 2001.

Smith, K.B., Li, L.-S., Lee, B.-C. and Kao, H., "Sediment Interface and Volume Reverberation Modeling with the Parabolic Approximation," *Journal of the Acoustical Society of America*, Vol. 110, pp. 2743, 2001.

Teo, K.L., Qin, L., Noordin, I.M., Karunasiri, G., Shen, Z.X., Schmidt, O.G., Eberl, K. and Queisser, H.J., "Effects of Hydrostatic Pressure on Raman Scattering in Ge Quantum Dots," *Physics Review B*, Vol. 63, pp. 1-4, 2001.

Thomson, R.W. Jr., Short, L.R., McGinnis, R.D., Colson, W.B., Shinn, M.D., Gubeli, J.F., Jordan, K.C., Hill, R.A., Biallas, G.H., Walker, R.L., Neil, G.R., Benson, S.V. and Yunn, B.C., "TJNAF Free Electron Laser Damage Studies," *Nuclear Instruments and Methods in Physics Research A475*, pp.625, 2001.

Tolstoy, A., Smith, K.B. and Maltsev, N., "The SWAM'99 Workshop - An Overview," *Journal of Computational Acoustics*, Vol. 9, pp. 1-16, 2001.

Tucholski, E., Larraza, A. and Droege, M., "Resonant Sonic Spectroscopic Studies of Aerogels Solids," *Journal of the Acoustical Society of America*, Vol. 110, pp. 2628, 2001.

Tucholski, E. and Larraza, A., "Measurements of Acoustic Einstein-Hoft Drag on Objects Undergoing Volume Oscillations," *Journal of the Acoustical Society of America*, Vol. 110, pp. 2652, 2001.

Zhou, L., Karunasiri, G. and Chee, Y.H., "Measurement of Excited State Position of Bound-to-Bound Quantum Well Infrared Detectors," *Journal of Applied Physics*, Vol. 90, pp. 2045-2047, 2001.

CONFERENCE PAPERS

Celik, M., Y. Kenter, A. Cooper and R. Pieper, "Aliasing Effects in Thermal Images of Four-bar Patterns Below and Above the Nyquist Limit," *Proceedings of the Thirty Fifth Annual Asilomar Conference on Signals, Systems and Computers*, Pacific Grove, CA, 4-7 November 2001.

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Colson, W.B., "Short Wavelength Free Electron Lasers of 2001," *Twenty Third International Free Electron Laser Conference Proceedings*, Darmstadt, Germany, August 2001.

Larrazza, A. and Tucholski, E., "Separation Techniques Using High Intensity Sound," V Encontro de Tecnologia em Acústica Submarina, Instituto de Pesquisas de Marina, Rio de Janeiro, Brazil, 21-23 November 2001.

Mei, T. and Karunasiri, G., "Investigation on Two-color Detection Using Asymmetric InGaAs/GaAs/AlGaAs Multi-quantum Wells with Superlattice Barriers," Asia-Pacific Optical and Wireless Communications Conference, Beijing, China, 11-15 November 2001.

Ng, M.W., Chee, Y.H., Karunasiri, G. and Xu, Y.P., "On-Chip Compensation of Dark Current in Infrared Focal Plane Arrays," 2001 IEEE International Symposium on Circuits and Systems (ISCAS '2001), Sydney, Australia, 6-9 May 2001.

Qian, X., Xu, Y.P. and Karunasiri, G., "A Tunable Bias-heating Cancellation Circuit for Microbolometer Readout Electronics," SIcon'01 Sensors for Industry Conference, Rosemount, IL, 5-7 November 2001.

Smith, K.B., Larrazza, A. and Kayali, B., "Scale Model Analysis of Full-Duplex Communications in an Underwater Acoustic Channel," *Proceedings of Oceans 2001 Conference*, Honolulu, HI, 5-8 November 2001.

Therrien, C.W., Kouteas, S.D. and Smith, K.B., "Time Delay Estimation Using a Signal Subspace Model," *Proceedings of the Thirty Fourth Asilomar Conference on Signals, Systems, and Computers*, pp. 832-836, Monterey, CA, 29-31 October 2000.

Zhou, L., Akkipeddi, R., Cheah, C.W. and Karunasiri, G., "Diffraction Grating for Middle Wavelength and Long Wavelength Quantum Well Infrared Detectors," International Conference on Materials for Advanced Technologies, Singapore, 1-6 July 2001.

CONFERENCE PRESENTATIONS

Cheah, C.W., Tan, L.S., Zhou, L.F. and Karunasiri, G., "Experimental Measurement of Intersubband Transitions in GaAs/InGaAs/AlGaAs Step Multiple Quantum Wells and Comparison with Theory," Sixth International Conference on Intersubband Transitions in Quantum Wells, Asilomar, CA, 10-14 September 2001.

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Colson, W.B., "MW FEL Oscillator Considerations" Workshop on Free-Electron Laser Development for Naval Applications, Newport News, VA, June 2001.

Colson, W.B., "Short Wavelength Free Electron Lasers of 2001," Twenty Third International Free Electron Laser Conference, Darmstadt, Germany, August 2001.

Colson, W.B., "Simulations of the 100kW TJNAF FEL Using a Short Rayleigh Length," Twenty Third International Free Electron Laser Conference, Darmstadt, Germany, August 2001.

Colson, W.B., "Simulations of the 100kW TJNAG FEL Using a Step-Tapered Undulator," Twenty Third International Free Electron Laser Conference, Darmstadt, Germany, August 2001.

PUBLICATIONS/PRESENTATIONS

PATENTS

Karunasiri, G., "Artificial Neuron Using Semiconductor Controlled Rectifier," Naval Postgraduate School, 2001, submitted.